



>>Entry Name: Barium sulfide (BaS₃), 9CI

Synonym(s): Barium trisulfide

CAS Registry Number: 12231-01-5

Ba(S₃)

Molecular Formula: BaS₃

Molecular Weight: 233.525

Accurate Mass: 233.821442

Percentage Composition: Ba 58.81%; S 41.19%

General Statement: Original molecular struct. correct although cryst. parameters subsequently shown to be incorrect

Source/Synthesis: Prepared by passage of a N₂/H₂S/H₂O (50:48:2) gas mixture through a bed of BaSO₃ at 470°, or by heating a mix. of BaCS₃ and S at 550°

Physical Description: Lemon yellow tetragonal cryst.

Melting Point: Mp 554°

Other Data: Dec. at 600° → S + BaS₂

References:

Miller, W.S. *et al.*, *Z. Kristallogr.*, 1936, **94**, 439, (*cryst struct*)

Marecek, J. *et al.*, *Coll. Czech. Chem. Comm.*, 1968, **33**, 4382, (*synth*)

Phillipot, E. *et al.*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1968, **266**, 1499, (*synth*)

von Schnering, H.G. *et al.*, *Naturwissenschaften*, 1974, **61**, 272, (*synth, thermal dec, cryst struct*)

Yamaoka, S. *et al.*, *Inorg. Chem.*, 1975, **14**, 129, (*cryst struct*)

Janz, G.J. *et al.*, *Inorg. Chem.*, 1976, **15**, 1751, (*Raman*)